7.5

Proportions and Similar Triangles

**Triangle Proportionality Theorem:** If a line parallel to one side of a triangle intersects the other two sides, then it divides the two sides proportionally.

Ex. In if then .



Ex.  so,  x= ?

**Converse of Triangle Proportionality Theorem:** If a line divides two sides of a triangle proportionally, then it is parallel to the third side.



In , if , then .

Ex. Determine whether .

**The Midsegment Theorem:** The segment connecting the midpoints of two sides of a triangle is parallel to the third side and is half as long.

In, if CD = DA and CE = EB, then  and .

Ex. Find the length of QS. Find x.